

## CLAIMS

What is claimed is:

1. In a machine vision system having a plurality of vision processors (VPs) and at least one user interface (UI), a method for instructing a UI in communication with a first VP to establish communication with a second VP, the method comprising:

providing each VP with a link function for establishing communication between a VP and a UI;

activating the link function so as to issue instructions to the UI to establish communication with another VP.

2. The method of claim 1, wherein activating the link function includes:

activating a VP control.

3. The method of claim 2, wherein activating a VP control includes:

clicking on a graphical representation of the VP control.

4. The method of claim 3, wherein the graphical representation of the VP control is an underlined text string displayed by a UI.

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5. The method of claim 2, wherein activating a VP control includes:  
providing an activation signal to the VP control.
6. The method of claim 5, wherein the activation signal is initiated by a user.
7. The method of claim 6, wherein the activation signal is initiated by a user via the UI.
8. The method of claim 7, wherein the UI includes a check box.
9. The method of claim 7, wherein the UI includes a radio button.
10. The method of claim 5, wherein the activation signal is initiated by an external event.
11. The method of claim 10, wherein the external event is an industrial process event.
12. The method of claim 10, wherein the activation signal is initiated by a change in the state of a sensor.

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13. The method of claim 10, wherein the activation signal is initiated by a programmatic decision.

14. The method of claim 10, wherein the activation signal is initiated by a human decision.

15. The method of claim 1, wherein activating the link function includes:  
including the link function in a function execution sequence of the VP.

16. The method of claim 1, wherein the link function also terminates communication with a first VP in addition to establishing communication with a second VP.

17. The method of claim 1, wherein the link function enables local dynamic display of a remote VP on the UI.

18. The method of claim 1, wherein upon activation of the link function, a dynamic connection is established that provides a continually updated display representing a current state of the VP connected to the UI.

19. The method of claim 1, wherein upon activation of the link function, a user is enabled to configure the VP using the UI.

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20. In a machine vision system having a plurality of vision processors (VPs) and at least one user interface (UI), a method for instructing a UI in communication with a first VP to establish communication with a second VP, the method comprising:

providing a graphical representation, included in the UI, the graphical representation being adapted to initiate an activation signal that causes the VP to instruct the UI to establish communication with the second VP.

21. The machine vision system of claim 20, wherein the plurality of VPs and the at least one UI are interconnected via a network.

22. The machine vision system of claim 21, wherein the network supports a TCP/IP network protocol.

23. The machine vision system of claim 20, wherein the graphical representation is adapted to be responsive to user action.

24. The machine vision system of claim 23, wherein user action is a mouse click upon the graphical representation.

25. The machine vision system of claim 20, wherein the graphical representation is an underlined text string.

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26. A user interface (UI) for a machine vision system having a plurality of vision processors (VPs), the user interface comprising:

a spread sheet; and

a graphical representation, the graphical representation being incorporated in the spreadsheet, the graphical representation being adapted to respond to user action so as to cause the VP to instruct the UI to establish communication with a VP of the plurality of VPs.

27. The user interface (UI) of claim 26, wherein the graphical representation is further adapted to respond to user action so as to cause the UI to terminate communication with a VP of the plurality of VPs.

28. The user interface (UI) of claim 26, wherein the graphical representation is an underlined text string.

29. The user interface (UI) of claim 26, wherein the graphical representation is an iconic representation.

30. A machine vision system comprising:

a plurality of vision processors (VPs);

at least one user interface (UI) in communication with a first VP of the plurality of VPs, the UI including:

a graphical representation visible to a user, the graphical representation being adapted to respond to user action so as to cause the VP to instruct the UI to establish communication with a second VP of the plurality of VPs.

31. The machine vision system of claim 30, wherein the plurality of VPs and the at least one UI are interconnected via a network.

32. The machine vision system of claim 31, wherein the network supports a TCP/IP network protocol.

33. The machine vision system of claim 30, wherein user action is a mouse click upon the graphical representation.

34. The machine vision system of claim 30, wherein the graphical representation is an underlined text string.

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